

1135-J5-1265 **Anna Marie Bergman*** (a.bergman@pdx.edu). *Students' Emerging Ideas of the Symmetries of Molecular Structures*. Preliminary report.

The aim of the work described here is to share students' initial ideas related to symmetry in the context of molecular structures. During an ongoing design experiment intended to develop a local instructional theory (Gravemeijer, 1998) for students reinvention of a classification of chemically important point groups, students were asked how they could identify all the symmetries of a molecule. This report shares how pairs of group theory students in a series of teaching experiments (Steffe, 1991), begin interacting within the chemistry context to identify the symmetries of various molecules. Initial analysis shows that students benefit greatly from the use of 3-d models and often attend to symmetry elements (geometric objects such as rotational axes) over symmetry operations (rigid motions about geometric objects such as a 120 rotation). (Received September 20, 2017)